

tains of southern California which cannot be placed with any of the described species. Specimens of this geographically isolated maple have been known to us for several years, but we have hesitated to describe the species, hoping that we might be able to study the plants in the field. The prospects, however, of a field acquaintance being still uncertain we shall describe the species from the available material, which was collected by Mr. S. B. Parish (5128) in Snow Cañon, 6,500 feet altitude, San Bernardino Mountains, June 20, 1901.

***Acer bernardinum* sp. nov.**

A low bushy shrub, 15–20 dm. high; branches slender, with smooth whitish-gray bark. Leaves 15–25 mm. broad and about the same length, cordate at base, 3-lobed to near the middle; central lobe as broad as long, with 2 shallow tooth-like lobes, these with 2–3 short teeth; petioles slender, 10–12 mm. long. Fruiting pedicels 1–3, 9–12 mm. long; samaras strongly divergent.

Nearest related to *Acer Torreji* Greene, but distinguished by its much smaller and less incised leaves, shorter petioles, and whitish-gray instead of reddish twigs.

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SHORTER NOTES

BOTRYCHIUMS IN SAND. — The bay of Seven Islands is on the north coast of the Gulf of St. Lawrence, about three hundred and twenty-five miles below Quebec, or nearly half way from that city to the straits of Belle Isle. The western shore of the bay and the islands which fringe its mouth are composed of felspathic rock, but the eastern shore is a continuous stretch of sand. This sand region follows down the bay to the mouth, about four miles, and then keeping the configuration of the coast bends to the east and extends at least as far as Moisie, the next settlement, eighteen miles away. Inland, the soil, if it can be so termed, consists of sand dune after sand dune of no great height, the whole thus forming a belt of sand nearly twenty miles long and at first at least four miles wide, with no trace of rock in the parts about to be discussed, and probably with none anywhere.

At the eastern entrance to the bay I was surprised to find last

August no less than three species of *Botrychium* growing in the sand, just beyond the beach. They were never within reach of the salt water, but were however most abundant only about ten yards above the reach of ordinary high tides, where they must be exposed to spray during storms. In other terms, they were among the plants which formed the first fringe of vegetation along the coast, excepting those which actually grew on the beach, and these were very few. By far the most common species was *B. neglectum* Wood, the others were *B. lanceolatum* (Gmel.) Ångs., and *B. Matricariac* (Schrank) Spreng. In the course of seventeen days spent in this general region, on shore and on the islands, I did not find elsewhere either of the first two species, and of the last only three plants together, on a rocky point at the head of the bay. At the place where the *Botrychiums* were found, I was nowhere far from the shore, but in other places I was far inland and never found any trace of these species, except as stated. All the material collected was submitted to Professor L. M. Underwood for specific determination. Professor M. L. Fernald has since informed me that he has on several occasions found *Botrychiums* in similar situations on the south shore of the Gulf.

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NEW YORK BOTANICAL GARDEN.

SCHREINER AND REED ON DELETERIOUS EXCRETIONS BY ROOTS. — In the June issue of the *Bulletin of the Torrey Botanical Club* Messrs. Schreiner and Reed contribute the results of a very interesting series of experiments which were designed to test the existence or otherwise of obnoxious substances excreted from the roots of plants. If I venture to draw attention to what seems to be a fallacy, I trust it may not be considered as carping criticism. For not only is their method of experiment ingenious, but it must be generally admitted that there is a very real problem to be solved regarding the relation of one field crop to another. The fallacy to which I draw attention is this: The authors designed their apparatus so that if a substance should form about the roots, it might have an opportunity of diffusing from its more concentrated solution about the roots into a larger body of the

nutrient medium (agar) in the lower part of the apparatus. For this purpose they employed the segmented tubes. At the lower end of the first tube, the substance might diffuse into the surrounding medium; but they assume that the concentration of the toxic substance would be greater in the succeeding tube than in the surrounding medium. This however would not be the case. From the lower end of the first segmented tube as a radius, the substance would diffuse *radially uniformly in all directions* and the concentration in the second tube would be equal to that in the general body of the medium; this state would be altered only *after the roots had commenced to develop in the second tube*. Hence at the time when the roots commenced to grow outside of the general alignment of the tubes, there could be no difference in the concentration of the toxic substance to account for the lateral development.

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PROCEEDINGS OF THE CLUB

OCTOBER 8, 1907

The first autumn meeting for the year 1907 was held at the American Museum of Natural History. The meeting was called to order at 8:30 by the secretary, and Dr. E. B. Southwick was elected chairman. Eleven persons were present.

The minutes for the preceding meeting, on May 29, 1907, were read and approved, and the name of Dr. Forrest Shreve was presented for membership. The resignation of Miss Edith B. Brainerd was read. On motion the secretary cast the vote of the club electing Dr. Shreve to membership.

The announced program consisted of informal reports upon the summer's work and observations. In response to calls by the chairman the following members made remarks:

C. Stuart Gager: Remarks on the absence of undergrowth in a hemlock forest.

Hemlock seeds germinate freely under the parent trees, but seldom attain a height of more than three or four inches. It